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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,421	01/17/2002	Ramsay Chang	9842-271-999	3434

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Pennie & Edmonds, LLP
3300 Hillview Avenue
Palo Alto, CA 94304

EXAMINER

LAWRENCE JR, FRANK M

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 10/17/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/052,421

Applicant(s)

CHANG ET AL

Examiner

Frank M. Lawrence

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 3 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claims 1 and 3, the term "said adsorbing" is indefinite because there are two distinct adsorption steps having different modes in claim 1. For the purposes of examination, it is assumed that the attachment of sorbent material to the support structure is being referred to in claim 3 and in the last line of claim 1.

3. While applicant may be his or her own lexicographer, a term in a claim may not be given a meaning repugnant to the usual meaning of that term. See *In re Hill*, 161 F.2d 367, 73 USPQ 482 (CCPA 1947). The term "adsorbing" in claims 1 and 5 to describe the attachment of a solid sorbent material to a sorbent structure is used by the claims to mean "attaching, applying, or coating" while the accepted meaning is "the adhesion of gaseous molecules to a solid surface by physical or chemical attractive forces," as is used in the second instance of adsorption in the claims, where a contaminant is adsorbed by a sorbent. The substitution of a word such as "attaching," "applying," or "coating" for the first instance of "adsorbing" each claim would overcome this rejection without limiting the scope of the claims.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 4 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Chang (5,505,766; figures 1, 2, 3c; col. 3, line 30 to col. 5, line 39; col. 6, lines 28-34; col. 8, lines 1-8).

6. Chang ('766) teaches a system for the removal of mercury from a combustor flue gas, comprising applying fresh sorbent from a silo (31) on to the surface of a filter bag (27) positioned in a baghouse that forms part of a duct for conducting flue gas, passing the flue gas over the sorbent structure to adsorb mercury onto the sorbent, removing the sorbent from the filter bag when it becomes saturated, collecting the saturated sorbent outside of the baghouse in a hopper (58), and repeating the adsorbing step with a new quantity of fresh sorbent. Sorbent may also be continuously injected with the flue gas (see col. 8, lines 1-8), which is prior to passing through the baghouse.

Allowable Subject Matter

7. Claim 3 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. The 112 rejection of claim 1 must also be overcome.

8. The following is a statement of reasons for the indication of allowable subject matter: A method for removing a vapor-phase contaminant from a contaminated gas stream in a duct, comprising applying fresh sorbent onto the surface of a sorbent structure positioned inside the duct, passing the contaminated gas stream over the fresh sorbent structure to adsorb the contaminants until the sorbent is saturated, periodically removing the saturated sorbent from the

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structure and collecting it outside of the duct, and repeating the sorbent application with a new quantity of fresh sorbent, wherein application of the sorbent is carried out prior to placing the structure inside the duct, is not taught, disclosed or suggested in a single reference or a combination of references in the prior art of record. The prior art fails to suggest a motivation for precoating a sorbent structure before placing it in a duct and then periodically removing spent sorbent from the structure.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional references listed on the attached PTO-892 form disclose gas adsorption systems using a supported or injected sorbent in a duct.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank M. Lawrence whose telephone number is 703-305-0585. The examiner can normally be reached on Mon-Thurs 7:30-5:00; alternate Fridays 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Simmons can be reached on 703-308-1972. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.

Frank Lawrence



Patent Examiner

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October 15, 2002